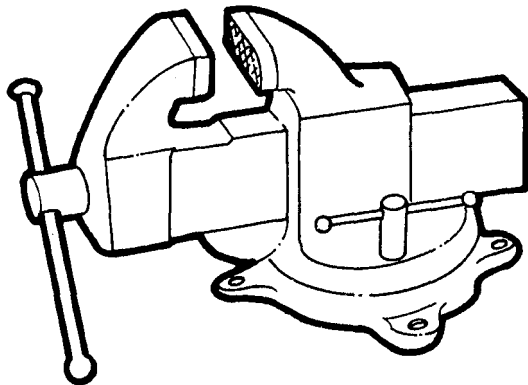


Chapter 18 VISES

HOW TO CHOOSE AND USE THEM

The “Types and Uses” section provides you with a list of some of the types of vises. These pages should help you select the right vise to do the job.

The “Using” section tells you how to use the vise to perform the desired function. The “Care” procedures tell you how to care for the items.

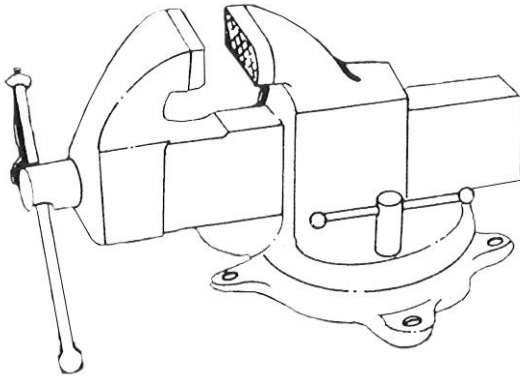


INDEX

<i>Item</i>	<i>Page</i>
TYPES AND USES	18-2
Machinist's bench vise	18-2
Bench and pipe vise	18-2
Clamp base bench vise	18-2
Pipe vise	18-2
Machine table vise	18-3
Pin vise	18-3
Piston holding vise	18-3
Handsaw filing vise	18-3
USING	18-4
CARE	18-5

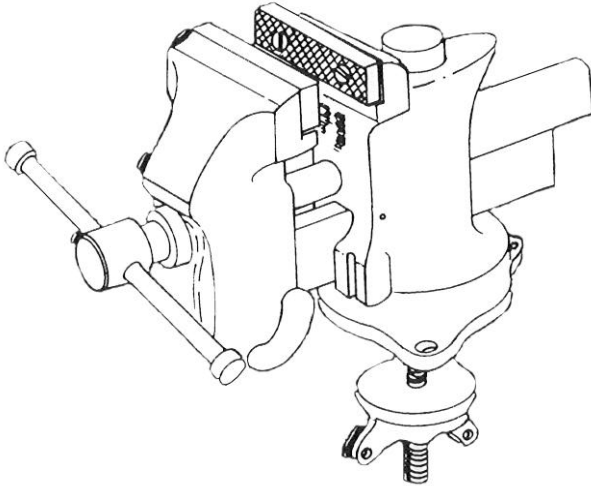
TYPES AND USES

MACHINIST'S BENCH VISE



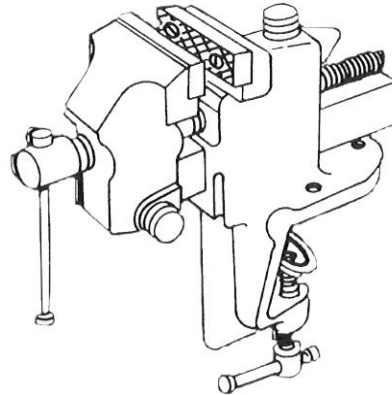
The machinist's bench vise has rough jaws which prevent the work from slipping. It has a swivel base, allowing the user to position the vise in a better working position. Machinist's bench vises are usually bolted to a work bench or table. They are used for holding or clamping large, heavy objects.

BENCH AND PIPE VISE



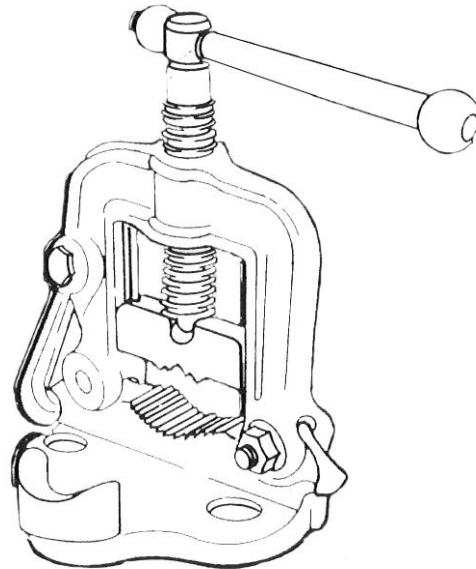
The bench and pipe vise is a dual purpose vise. It has rough jaws and a swivel base similar to the machinist's bench vise. However, it also has built-in pipe jaws. Bench and pipe vises are usually bolted to a work bench or table. They are used for holding or clamping heavy objects, holding pipe for cutting and threading, and for forming and shaping metal.

CLAMP BASE BENCH VISE



The clamp base bench vise is a lightweight, portable machinist's vise. It is attached to a table or bench with the mounting clamp. It has rough jaws for holding material and may have a swivel base. Clamp base bench vises are used to hold light materials or in areas where a heavier vise is not available.

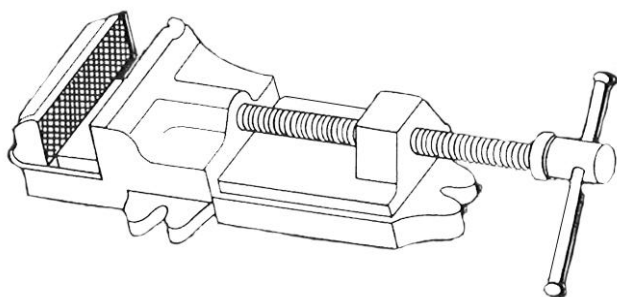
PIPE VISE



The pipe vise is a special purpose vise designed to hold round stock. It has hinged jaws which allow the user to position the work and then lock it in place. Some pipe vises have a section of chain instead of jaws for holding the pipe. Pipe vises are usually bench mounted. They are used to hold pipe from 1/8 inch to 8 inches in diameter while cutting or threading.

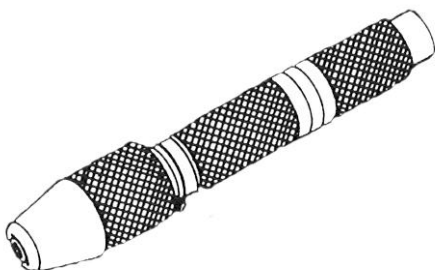
TYPES AND USES - Continued

MACHINE TABLE VISE



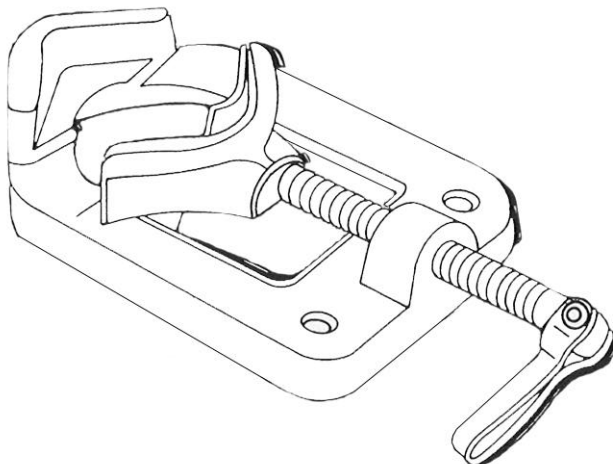
The machine table vise is a special purpose vise which may be bolted to a drill press, lathe, or table. It is available in two sizes, one having a 3-1/2-inch jaw width and a 3-inch jaw opening, and the other having a 6-inch jaw width and a 6-inch jaw opening. Machine table vises are used to hold small pieces of wood or metal for machining or drilling operations.

PIN VISE



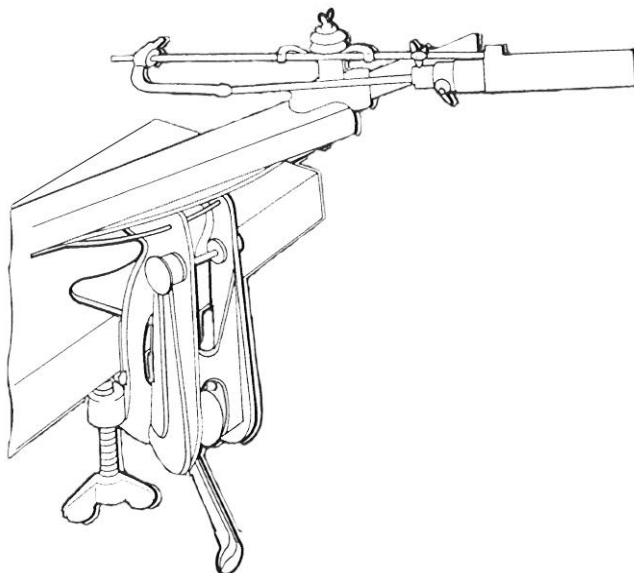
The pin vise is a special purpose vise which has a knurled metal handle and a chuck. It is designed to hold material from 0 to 0.187 inches in diameter. The pin vise is used to hold files, taps, and small drills during machining operations.

PISTON HOLDING VISE



The piston holding vise is a special purpose vise which can hold engine pistons up to and including 5-1/2 inches in diameter. This vise may be bolted to a bench or table.

HANDSAW FILING VISE

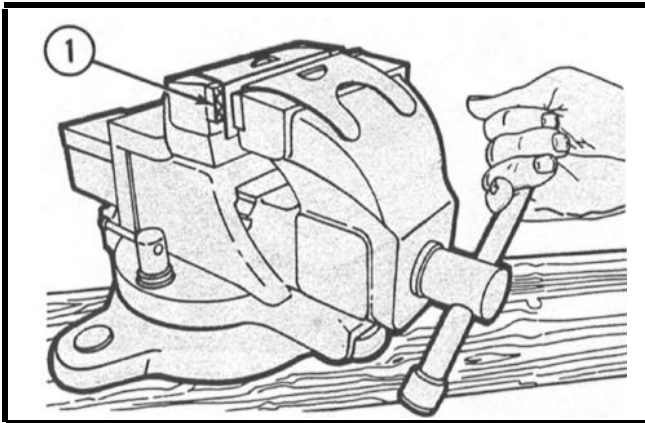


The handsaw filing vise is a special purpose vise used for holding handsaws while they are being sharpened. It has jaws between 9-1/2 and 11 inches wide, and an attachment for holding a file at a constant angle.

USING A MACHINIST'S BENCH VISE

WARNING

MAKE-SURE THE VISE IS BOLTED SECURELY TO A BENCH OR TABLE AND THE SWIVEL BASE IS LOCKED.



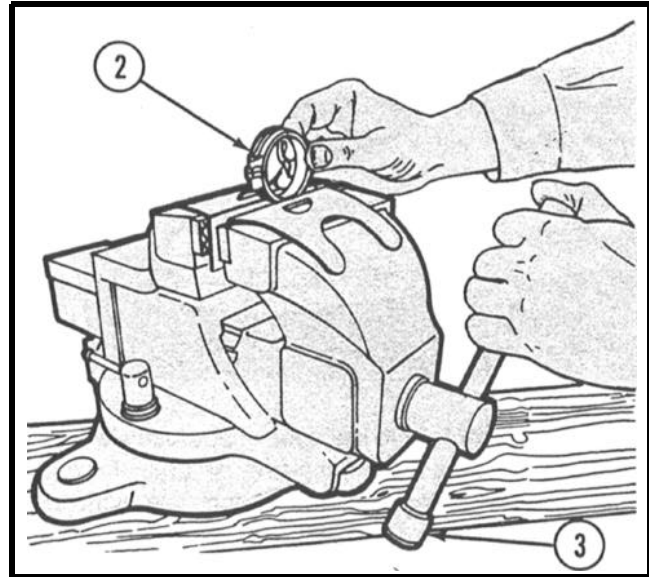
- 1 Open jaws (1) of vise wide enough to allow you to insert the object you want to clamp.

CAUTION

Use brass or copper caps on vise jaws to protect soft material when clamping.

CAUTION

Do not strike vise with a heavy object or try to hold large work in a small vise.



- 2 Insert object (2) to be clamped between vise jaws and tighten handle (3).
- 3 Work should be held firmly in place, but the jaws should not be so tight that they mar the finish. A piece of rawhide or leather may be used to protect highly polished surfaces:

NOTE

When holding hard material in vise jaws tightened by hand, give the vise handle a sharp rap for final tightening.

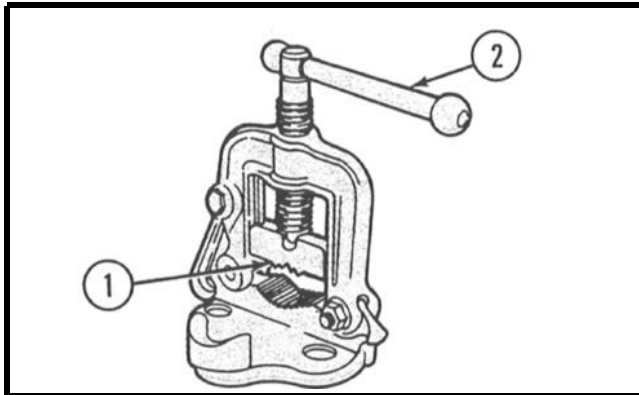
USING A PIPE VISE

WARNING

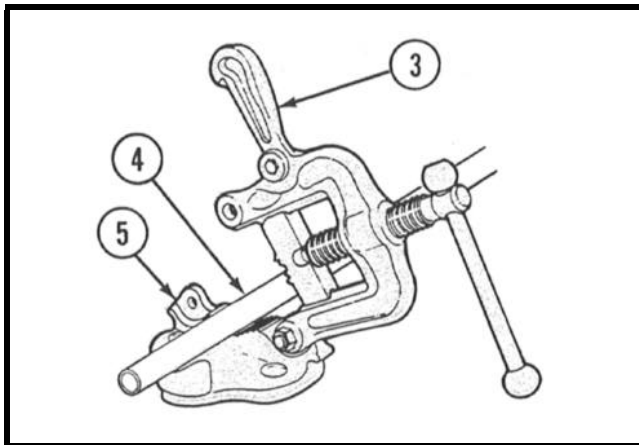
PIPE ENDS ARE EXTREMELY SHARP.
HANDLE WITH CARE.

NOTE

The following procedure provides the steps required to fasten a piece of pipe in a hinged jaw pipe vise.

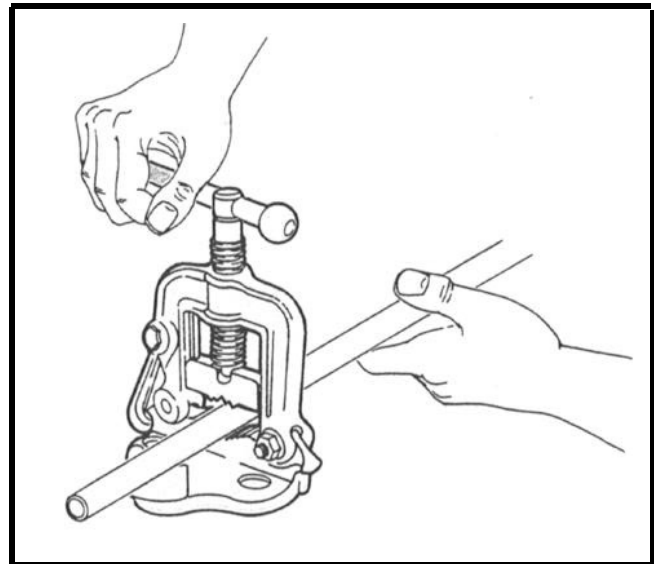


- 1 Open the pipe-holding jaws (1) by turning the threaded T-handle (2)



Lift locking device (3) and open pipe vise.

- 3 Insert section of pipe (4) in vise and close pipe vise, by pushing locking device against lip on the side of the lower holding jaw (5).
- 4 Insert locking bolt through aligned holes of upper and lower lip jaws.



CAUTION

Do not apply too much pressure to copper or aluminum pipe.

- 5 Tighten the pipe holding jaws by turning the threaded T-handle.

CARE OF VISES

Clean with a rag after each use, and apply a light coat of oil.

Never strike a vise with a heavy object or try to hold large work in a small vise.

Keep jaws in good condition.

Never oil the swivel base or swivel joint, as this decreases its holding power.

When not using a vise, bring the jaws lightly together and leave the handle in a vertical position. This will protect the jaws.

